

What is claimed is:

1. A coupler comprising:
a first element having a rectangular portion and a tapered portion with a nose,
a second element having a rectangular portion and a tapered portion with a nose
a third element disposed between the nose of the first element and the nose of the second element,

a matching network for electrically connecting the first element, the second element and the third element.
2. The coupler of claim 1, wherein the length of the rectangular portion of the second element is longer than the length of the rectangular portion of the first element.
3. The coupler of claim 1, wherein the second element has an arm for connecting to the matching network.
4. The coupler of claim 3, wherein the length of the arm is approximately equal to the length of the third element.
5. The coupler of claim 1, wherein the third element has a symmetric shape.
6. The coupler of claim 5, wherein the third element has a square shape.
7. The coupler of claim 5, wherein the third element has a round shape.
8. The coupler of claim 1, wherein the tapered portions of the first and second elements are approximately the same size.
9. The coupler of claim 1, wherein the tapered portions of the first and second elements have straight edges on either side of the nose.
10. The coupler of claim 1, wherein the tapered portions of the first and second elements have curved edges on either side of the nose.

11. The coupler of claim 1, wherein the matching network has respective components between

the first element and the second element,
the first element and the third element, and
the second element and the third element.

12. The coupler of claim 11, wherein
the component between the first element and the second element is a resistor,
the component between the first element and the third element is a resistor, and
the component between the second element and the third element is an inductor.

13. The coupler of claim 1 having a voltage standing wave ratio (VSWR) of better than 2:1 over a frequency range of at least 600 to 2600 MHz.

14. The coupler of claim 1 having dipole-like radiation patterns.

15. The coupler of claim 1 for use in a radio frequency test chamber.

16. The coupler of claim 1 having a generally flat antenna gain curve over a frequency range of at least 800 to 2500 MHz and a max-min gain variation of no more than about 2.5 dB.

17. A bow tie coupler comprising:
- a first element having a tapered nose portion, the first element for connecting to a first portion of a signal feed structure,
- a second element having a tapered nose portion,
- a third element for connecting to a second portion of the signal feed structure, the third element located between the tapered nose portions of the first and second elements, and
- a matching network for electrically connecting the first element, the third element and the second element.
18. The bow tie coupler of claim 17, wherein the length of the second element is longer than the length of the first element.
19. The bow tie coupler of claim 17, for use in a radio frequency test chamber.
20. The bow tie coupler of claim 17, wherein the signal feed structure is a coaxial cable, the first portion of the signal feed structure is a ground reference portion of the coaxial cable, and the second portion of the signal feed structure is a center pin of the coaxial cable.
21. The bow tie coupler of claim 17 having a voltage standing wave ratio (VSWR) of better than 2:1 over a frequency range of at least 600 to 2600 MHz.

22. A coupler for use in a radio frequency test chamber, comprising:
- a first element having a tapered nose portion, the first element for connecting to a first portion of a signal feed structure,
 - a second element having a tapered nose portion,
 - a third element for connecting to a second portion of a signal feed structure, and
 - a matching network for electrically connecting the first element, the second element and the third element.
23. The coupler of claim 22, wherein the length of the second element is longer than the length of the first element.
24. The coupler of claim 22 having a voltage standing wave ratio (VSWR) of better than 2:1 over a frequency range of at least 600 to 2600 MHz.